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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,436	10/17/2002	Frederick L. Travelute III	3000.166	8668
21176	7590	06/28/2004	EXAMINER	
SUMMA & ALLAN, P.A. 11610 NORTH COMMUNITY HOUSE ROAD SUITE 200 CHARLOTTE, NC 28277			BOYD, JENNIFER A	
		ART UNIT	PAPER NUMBER	
		1771		

DATE MAILED: 06/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/065,436	TRAVELUTE ET AL.
	Examiner	Art Unit
	Jennifer A Boyd	1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 17 October 2002.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-86 is/are pending in the application.
 4a) Of the above claim(s) 39 – 71 and 81 - 86 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1 – 38 and 72 - 80 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date 3/14/03.
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1 – 38 and 72 - 80, drawn to hollow filaments, staple fibers and nonwoven materials, classified in class 442, subclass 338.
 - II. Claims 39 – 71 and 81 - 86, drawn to a method for forming a highly water absorbent polyester filament, staple fiber and nonwoven materials, classified in class 264, subclass 176.1+.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the process as claimed can be used to make other and materially different product such as fiberfill for pillows.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Philip Summa on May 5, 2004 a provisional election was made with traverse to prosecute the invention of Group I, claims 1- 38 and 72 - 80. Affirmation of this election must be made by applicant in replying to this Office action. Claims

39 – 71 and 81 – 86 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1 – 5 and 11 – 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Shiozaki et al. (US 4,336,307).

Shiozaki is directed to a hollow water absorbing polyester filaments and the process for making the same (Title).

As to claims 1 and 2, Shiozaki teaches hollow water absorbing polyester filaments (Abstract). Shiozaki teaches that the filaments have a number of fine pores through which the hollow is connected to the outside of the filament and each exhibiting excellent water and moisture absorbing property (column 1, lines 10 – 15). It is the position of the Examiner that the

pores and the hollow portion of the filament are “sufficient openings” to fill with liquid, in this case, water.

As to claim 3, Shiozaki teaches that the polyester filament is preferably polyethylene terephthalate (column 3, lines 35 – 40). It should be noted that the transitional phrase “consisting essentially of” limits the scope of a claim to the specified materials or steps “and those that do not materially affect the basic and novel characteristic(s)” of the claimed invention. *In re Herz*, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976). The burden is upon the Applicant to show that the additional components do affect the basic and novel characteristics of the invention. For the purposes of searching for and applying prior art under 35 U.S.C. 102 and 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, “consisting essentially of” will be construed as equivalent to “comprising.” See MPEP 2111.03.

As to claim 4, Shiozaki teaches that the hollow polyester filament may be in the form of staple fibers (column 6, lines 50 – 60).

As to claim 5, Shiozaki teaches that the hollow polyester filament can be in the form of a yarn or fiber (column 6, lines 50 – 60). It is the position of the Examiner that because the filament is in the form of a fiber, it has Applicant’s “length sufficient to exhibit fiber properties”.

As to claim 11, Shiozaki teaches that the polyester filament may have a round cross-sectional profile and the hollow may be round (column 5, lines 35 – 45).

As to claim 12, Shiozaki teaches that the polyester filament may have a round cross-sectional profile and the hollow may be irregular shaped such as multilobal (column 5, lines 35 – 55).

As to claim 13, Shiozaki teaches that the polyester filament may have an irregular shaped such as multilobal and the hollow may have a round shape (column 5, lines 35 – 50).

As to claim 14, Shiozaki teaches that the polyester filament may have an irregular cross-sectional profile and an irregular hollow shape (column 5, lines 35 – 50).

As to claim 15, Shiozaki teaches hollow water absorbing polyester filaments (Abstract). Shiozaki teaches that the filaments have a number of fine pores through which the hollow is connected to the outside of the filament and each exhibiting excellent water and moisture absorbing property (column 1, lines 10 – 15). It is the position of the Examiner that the pores and the hollow portion of the filament are “sufficient openings” to fill with liquid, in this case, water. Shiozaki teaches that the polyester filament is preferably polyethylene terephthalate (column 3, lines 35 – 40). It should be noted that the Examiner has interpreted “consisting essentially of” as “comprising”; please note the comments above in the rejection of claim 3 concerning the reasons for this interpretation.

Claim Rejections - 35 USC § 102/103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1 – 2, 4 – 10, 72 – 74 and 76 – 80 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP 57139600A.

JP 57139600A is directed to non-woven fabric having a soft and good handle used in

sanitary goods (Abstract).

JP 57139600A teaches a non-woven fabric comprising drawn polyester staple fibers having a linear density of up to 3 denier as required by claims 78 – 80 and having a length of 1 – 15 mm as required by claims 7 and 76 - 77. JP 57139600A notes that the drawn polyester fibers can be hollow (Abstract). Although, JP 57139600A might not specifically disclose the nature of the type of liquids that can be filled in the hollow fibers as required by claims 2 and 72, it is reasonable to assume that sanitary goods are traditionally used to absorb water-based liquids. Furthermore, the JP 57139600A meets all physical and structural limitations and absent any evidence to the contrary, it would be reasonable to assume that the fabric of JP 57139600A can function in the same capacity as the fabric of the Applicant.

Although JP 57139600A does not explicitly teach the claimed having a length sufficient to support a meniscus of water at each end thereof as required by claim 6, a minimum length sufficient to support a meniscus of water in the coaxial opening and a maximum length at which the filament will fill entirely with a liquid as required by claim 72 and the maximum length is the length above which air pressure between a meniscus at each end of the filament will prevent the opening from filling entirely with the selected liquid as required by claim 73, it is reasonable to presume that those properties are inherent to JP 57139600A. Support for said presumption is found in the use of like materials (i.e. a polyester staple filament having a length between 1 – 15 mm and a denier of up to 3) which would result in the claimed property. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed property of minimum length sufficient to support a meniscus of water in the coaxial opening and a maximum length at which the filament will fill entirely with a liquid as required by claim 72

and the maximum length is the length above which air pressure between a meniscus at each end of the filament will prevent the opening from filling entirely with the selected liquid as required by claim 73 would obviously have been present once the JP 57139600A product is provided.

Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977) as to providing of this rejection made above under 35 USC 102.

Claim Rejections - 35 USC § 103

10. Claim 75 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 57139600A. JP 57139600A discloses the claimed invention except fails to teach the specific type of polyester used for the staple fiber. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use polyethylene terephthalate as the polyester since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. In the present invention, one would have been motivated to use polyethylene terephthalate due to its wide availability and common use in sanitary products.

11. Claims 16 – 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamiya et al. (JP 03-287848) in view of Jennergren. It should be noted that the Examiner has requested a full translation of the Tamiya Publication and it will be included in the next Office Action.

Tamiya is directed to bulky nonwoven fabric composed of a hollow composite fiber preferably used for liquid absorbing material such as diapers (Title from Derwent translation, Use/Advantage from Derwent translation and Purpose from JPO translation).

As to claim 16, Tamiya teaches a fabric composed of composite fiber consisting of two polymers and a hollow section as the core component. It should be noted that Tamiya uses the generic term “fiber” which by definition is a unit of matter that forms the basic element of fabrics and other textile structures and is characterized by having a length at least 100 times its diameter or width. It is unclear in the English translation as to whether the fiber of Tamiya is in filament form, staple form or can be in both forms.

As to claim 17, Tamiya teaches that polymer A having a high melting point which surrounds the hollow core component and polymer B has a low melting point which functions as the sheath. See Figure 1 in the Japanese language Patent Application. Tamiya teaches that polymer A can be polyethylene terephthalate (Abstract from Derwent).

As to claim 18, Tamiya teaches a fiber with a hollow core indicated by 2 in Figure 1.

As to claim 19, Tamiya teaches that the fiber has respective circular cross-sections as seen in Figure 1.

As to claims 23 and 24, Tamiya teaches that the fiber has an asymmetric cross-section in Figure 1. It should be noted that the location of the hollow portion is off-center resulting in a fiber that lacks symmetry in the cross-sectional area.

As to claim 28, Tamiya teaches a fabric composed of composite fiber consisting of two polymers and a hollow section as the core component. Tamiya teaches that polymer A having a high melting point which surrounds the hollow core component and polymer B has a low melting point which functions as the sheath. See Figure 1 in the Japanese language Patent Application. Tamiya teaches that polymer A can be polyethylene terephthalate (Abstract from Derwent). It should be noted that the Examiner has interpreted “consisting essentially of” as “comprising”;

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please note the comments in the above rejection concerning the reasons for this interpretation.

Also, it should be noted that Tamiya uses the generic term “fiber” which by definition is a unit of matter that forms the basic element of fabrics and other textile structures and is characterized by having a length at least 100 times its diameter or width. It is unclear in the English translation as to whether the fiber of Tamiya is in filament form, staple form or can be in both forms.

As to claims 29 and 30, Tamiya teaches a fiber comprising a hollow section (Abstract). It is the position of the Examiner that the hollow section provides “sufficient openings to substantially fill with liquid”. Tamiya teaches that the fabric made of the hollow fibers is used for liquid-absorbing material applications such as paper napkins (Use/Advantage of JPO translation). Although, Tamiya might not specifically disclose the nature of the type of liquids that can be filled in the hollow fibers, it is reasonable to assume that paper napkins are traditionally used to absorb water-based liquids. Furthermore, Tamiya meets all physical and structural limitations set forth by the claims 29 and 30. Absent any evidence to the contrary, it would be reasonable to assume that the fabric of Tamiya can function in the same capacity as the fabric of the Applicant.

As to claim 31, Tamiya teaches that polymer A having a high melting point which surrounds the hollow core component and polymer B has a low melting point which functions as the sheath. See Figure 1 in the Japanese language Patent Application. Tamiya teaches that polymer A can be polyethylene terephthalate (Abstract from Derwent).

As to claim 32, Tamiya teaches that the fiber has an asymmetric cross-section in Figure 1. It should be noted that the location of the hollow portion is off-center resulting in a fiber that lacks symmetry in the cross-sectional area.

As to claim 37, Tamiya teaches a fabric composed of composite fiber consisting of two polymers and a hollow section as the core component. Tamiya teaches that polymer A having a high melting point which surrounds the hollow core component and polymer B has a low melting point which functions as the sheath. See Figure 1 in the Japanese language Patent Application. Tamiya teaches that polymer A can be polyethylene terephthalate (Abstract from Derwent). Tamiya teaches a fiber comprising a hollow section (Abstract). It is the position of the Examiner that the hollow section provides “sufficient openings to substantially fill with liquid”. Tamiya teaches that the fiber has an asymmetric cross-section in Figure 1. It should be noted that the location of the hollow portion is off-center resulting in a fiber that lacks symmetry in the cross-sectional area. It should be noted that the Examiner has interpreted “consisting essentially of” as “comprising”; please note the comments in the above rejection concerning the reasons for this interpretation. Also, it should be noted that Tamiya uses the generic term “fiber” which by definition is a unit of matter that forms the basic element of fabrics and other textile structures and is characterized by having a length at least 100 times its diameter or width. It is unclear in the English translation as to whether the fiber of Tamiya is in filament form, staple form or can be in both forms.

As to claim 38, Tamiya teaches that the fabric made of the hollow fibers is used for liquid-absorbing material applications such as paper napkins (Use/Advantage of JPO translation). Although, Tamiya might not specifically disclose the nature of the type of liquids that can be filled in the hollow fibers, it is reasonable to assume that paper napkins are traditionally used to absorb water-based liquids. Furthermore, Tamiya meets all physical and structural limitations set forth by the claims 29 and 30. Absent any evidence to the contrary, it

would be reasonable to assume that the fabric of Tamiya can function in the same capacity as the fabric of the Applicant.

Tamiya fails to teach that the hollow fiber is in filament form as required by claims 16 – 19, 23 – 24 and 29 – 32 and that the hollow fiber is in staple form as required by claims 20 – 22, 25 – 27, 28, 33 and 37 - 38.

Jennergren is directed to fabrics formed of hollow filaments and hollow staple fibers useful in numerous applications such as medical garments and disposable absorbent products (Abstract). In one embodiment of the invention, the fabrics include a plurality of hollow continuous spunbonded filaments and in another embodiment, the fabrics include a plurality of hollow staple fibers (column 2, lines 18 – 22). Jennergren does not indicate that hollow filaments are advantageous when compared to hollow staple fibers or that hollow staple fibers are advantageous when compared to hollow filaments; it is implied that the use of hollow filaments or hollow staple fibers depends on the type of absorptive material being produced.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use hollow fibers in filament form or hollow fibers in staple form as implied by Jennergren when creating the absorptive fabric of Tamiya motivated by the desire to create an absorptive material suitable for various applications.

As to claims 16 and 28, although Tamiya in view of Jennergren does not explicitly teach the claimed moisture absorption capability of between about 10 and 30 percent by volume, it is reasonable to presume that moisture absorption capability is inherently between 10 and 30

percent by volume. Support for said presumption is found in the use of like materials (i.e. a hollow filament consisting essentially of polyethylene terephthalate which is used for liquid-absorbing materials indicating a level of moisture absorptivity) which would result in the claimed property. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed property of moisture absorption capability of between about 10 and 30 percent by volume would obviously have been present once the Tamiya in view of Jennergren product is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977).

As to claim 34, Tamiya in view of Jennergren discloses the claimed invention except for that the length of the fiber is between one-quarter inch and two inches. It should be noted that the length of the fiber is a result effective variable. For example, the length of the fiber governs the water absorption capacity. It would have been obvious to one having ordinary skill in the art at the time the invention was made to create a fiber with a length between one-quarter inch and two inches since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to optimize the length of the fiber in order to create a highly absorptive material.

As to claims 35 – 36, the details of the patent are discussed above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A Boyd whose telephone number is 571-272-1473. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer Boyd
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June 20, 2004

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